



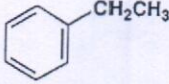
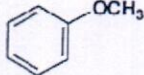
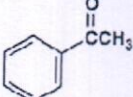
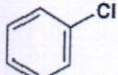
ANJUMAN-I-ISLAM'S

**KALSEKAR TECHNICAL CAMPUS, NEW PANVEL**

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REV:00	<b>QUESTION PAPER: Sessional-I Exam</b>	EXM-04 (a)
CLASS:- Second year B. Pharm		SEM:-III
SUBJECT:- Pharmaceutical Organic Chemistry-II		DATE:-03/10 /2023
DURATION:- 60 min.		MARKS:-30

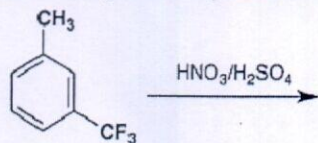
	Mark s	C Os	
<b>Q.01 Objective answer type questions (Attempt all):</b>	10	2 &3	
I) Molecules must have _____ number of $\pi$ electrons to be aromatic a) $2n+2$ b) $4n+2$ c) $6n+2$ d) $8n+2$			
II) $\text{KMnO}_4$ reaction is used to identify _____ nature of the hydrocarbons a) Cyclic b) Alkene c) Alkyne d) Alkane			
III) Which hybridization state is present in the carbon atom in benzene and why a) $sp^3$ , due to its geometry b) $sp^2$ , due to its planar nature c) $sp^2$ , as it has an hybridized orbital for delocalization of electrons d) both b & c			
IV) Which scientist discovered Benzene in 1825? a) Dr. Michael Faraday b) Eilhard Mitscherlich c) Kekule d) Dr. Hoffman			
V) Which isoform of benzenehexachloride is used as an insecticide? Name of the compound is _____ a) $\alpha$ benzenehexachloride known as gammaexane b) $\beta$ benzenehexachloride known as gammaexane c) $\gamma$ benzenehexachloride known as gammaexane d) $\delta$ benzenehexachloride known as gammaexane			
VI) Which gives a <i>meta</i> nitro compound as the main product upon nitration with a nitric acid-sulfuric acid mixture?			
a) 	b) 	c) 	d) 
VII) Which of the following statements regarding electrophilic aromatic substitution is wrong? a) Acetyl and cyano substituents are both deactivating and <i>m</i> -directing b) Alkyl groups are activating and <i>o,p</i> -directing. c) Ammonio groups are <i>m</i> -directing but amino groups are <i>o,p</i> -directing. d) Chloro and methoxy substituents are both deactivating and <i>o,p</i> -directing			



VIII) Which combination of reagents used in the indicated order with benzene will give *m*-nitropropylbenzene?

- a) 1)  $\text{HNO}_3/\text{H}_2\text{SO}_4$ , 2)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl}/\text{AlCl}_3$   
 b) 1)  $\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl}/\text{AlCl}_3$ , 2)  $\text{HNO}_3/\text{H}_2\text{SO}_4$   
 c) 1)  $\text{CH}_3\text{CH}_2\text{COCl}/\text{AlCl}_3$ , 2)  $\text{HNO}_3/\text{H}_2\text{SO}_4$ , 3)  $\text{H}_2\text{NNH}_2/\text{NaOH}$   
 d) 1)  $\text{HNO}_3/\text{H}_2\text{SO}_4$ , 2)  $\text{CH}_3\text{CH}_2\text{COCl}/\text{AlCl}_3$ , 3)  $\text{H}_2\text{NNH}_2/\text{NaOH}$

IX) Which pair of compounds are the most probable main products of the following reaction?



- a) +
- b) +
- c) +
- d) +

X) On heating aqueous solution of benzene diazonium chloride, which of the following is formed?

- a) Benzene b) Phenol c) aniline d) Chlorobenzene

**Q.02 Short answer type questions (Attempt two): (5 Marks)**

		Mark s	CO
I)	Identify aromatic, anti- aromatic & non- aromatic compounds from following structures.	5	2 &3
II)	Write about the history of identification of benzene and its production?	5	1,2 &3
III)	Mention which of the compound is more reactive among both the compounds with explanation based on nature of group attached: i. Benzene Vs benzoic acid ii. Aniline Vs Benzene	5	2 &3

**Q.03 Long answer type questions (Attempt one): (10 Marks)**

		Mar ks	CO
I.	Explain the Aromaticity, Orbital picture and Resonance of benzene?	10	1,2 &3
II	Draw the resonating structures of chlorobenzene . Also explain whether chlorobenzene is activating or deactivating?	10	2 &3





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REV:00	QUESTION PAPER PERIODIC TEST	EXM	
CLASS : Second Year B. Pharm		SEM : III	
SCHEME : PCI Syllabus		DATE : 4/10/23	
SUBJECT: Physical Pharmaceutics-I.		MARKS: 30	
DURATION: 60 mins			
<b>Q.01:</b>			
a)	Name the process in which ions surrounded by water molecules a. Dissociation      b. electrolysis      c. Hydration      d. Solvation	Marks 1	CO
b)	At constant temperature the solubility of gas in liquid is proportional to pressure of gas above it is called as a. Raoult's law      b. Graham's law      c. Henry's law      d. Charle's law	1	
c)	EDTA is example of a. Unidentate      b. Bidentate      c. Oxydentate      d. Multidentate	1	
d)	Which of the following is not purpose of complexation? a. Enhancing stability of drug      c. Dissolution rate enhancement b. Toxicity reduction      d. Solubility disruption	1	
e)	A phenomena when same molecules of one of the component in solution interact is called as _____ a. Association      b. Dissociation      c. Solvation      d. Dissolution	1	
f)	Monomolecular type of complexes is called _____ a. Inclusion      b. Chelation      c. Coordination      d. Aromatic	1	
g)	Which of the following statement is correct regard to solubility of gases in water a. Increase with increase in pressure      c. Increase with increase in temperature b. Increase by addition of non electrolyte      d. Increase in case of chemical reaction	1	
h)	Solubility of solute between two immiscible solvent can be explained by a. Raoult      b. Nernst distribution      c. Law of diffusion      d. All of above	1	
i)	PEG is type of complex a. Inorganic      b. Organic      c. Polymer      d. Both B and C	1	
j)	Like dissolves like parameter was given by a. Hansen solubility parameter      c. Law of diffusion b. Phase rule      d. ficks diffusion	1	
<b>Q.02 : Long answers (Any one)</b>			
a)	Write a note on different factors affecting solubility of drug in liquid	10	
b)	Describe Method of analysis of complex formation.	10	
<b>Q.03 : Short Answers (Any two)</b>			
a)	Write a note on protein binding	5	
b)	Classify Complexes. Discuss metal ion complexes in details.	5	
c)	Write a note on critical solution temperature and its applicaton	5	

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REV:00	QUESTION PAPER PERIODIC TEST- UT 1	EXM-04(a)	
CLASS :- Second Year B. Pharm		SEM:- III	
SCHEME:- PCI Syllabus			
SUBJECT:- Microbiology		DATE:- 5/10/2023	
DURATION:- 60 mins		MARKS:- 30	
<b>Q.01:</b>			
		<b>Marks</b>	
		<b>CO</b>	
a)	Microorganism which grow in the absence is oxygen is called 1. Aerobic 2. Microscopic 3. Anaerobic 4. None of the above	1	
b)	The act of weakening the pathogenic property of any pathogenic microorganism is called 1. Vaccine 2. Tyndallisation 3. sterilization 4. attenuation	1	
c)	The term vaccine was given by 1. R. Koch 2. L. Pasteur 3. E. Jenner 4. Flamming	1	
d)	Penicillin was discovered by 1. R. Koch 2. L. Pasteur 3. E. Jenner 4. Flamming	1	
e)	Study of fungi is known as 1. Mycology 2. Parasitology 3. Virology 4. Bacteriology	1	
f)	Outer membrane is present in cell wall of 1. Gram-positive 2. Both gram positive and negative 3. Only gram positive 4. Only gram negative	1	
g)	Bacteria which prefer low temperature 0-22 degree celsius 1. Thermophilic 2. Mesophilic 3. Thermoduric 4. psychophilic	1	
h)	Electron microscope was first developed by 1. Knoll & Ruska 2. Galileo Galilei	1	

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	3. L. Pasteur 4. Antonie van Leeuwenhoek		
i)	Sanitisation is mostly used in 1. Hospitals 2. Food processing and catering units 3. Research laboratories 4. All of the above	1	
j)	Acid-fast staining is also known as 1. Negative staining 2. AFB staining 3. Ziel-Nelson staining 4. Both B & C	1	
<b>Q.02 : Long answers (Any one) (draw diagrams wherever necessary)</b>			
a)	Describe in brief about SEM and TEM.	10	
b)	Differentiate between gram-positive and gram-negative bacteria. List methods for the cultivation of anaerobes and explain any 2 in details.	10	
<b>Q.03 : Short Answers (Any two) (draw diagrams wherever necessary)</b>			
a)	Explain the bacteria growth curve.	5	
b)	Define pure culture and methods of isolation of bacteria.	5	
c)	Write a short note on scope and application of pharmaceutical microbiology.	5	





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**S. Y. B. PHARM. (SEMESTER III)  
FIRST SESSIONAL THEORY EXAMINATION (2023 - 2024)**

Subject: PHARMACEUTICAL ENGINEERING

Date: 6/10/23

Marks: 30

(UT1)

**ALL QUESTIONS ARE COMPULSORY**

Q. N	QUESTIONS	MARKS	CO
<b>1</b>	<p><b>MULTIPLE CHOICE QUESTIONS.</b></p> <p>1. Which of the following experiments is used for the study of flow of fluids</p> <p>A. Bernoulis B. Orifice meter C. Reynolds D. Stokes</p> <p>2. Which of the following uses a thin plate for the measurement of flow of fluids?</p> <p>A. Orifice meter B. Pitot tube C. Rotameter D. Venturi meter</p> <p>3. Which of the following is NOT a mode of size reduction?</p> <p>A. Collision B. Compression C. Cutting D. Fluidization</p> <p>4. Reyolds number may be defined as the ratio of one of the following?</p> <p>A. Elastic force to pressure forces B. Gravity forces to inertial forces C. Inertial forces to viscous forces D. Viscous forces to inertial forces</p> <p>5. Which of the following is used to measure fluid statics</p> <p>A. Manometers B. Flowmeters C. Rotameter D. None</p> <p>6. Which of the following dryers is known as Lyophiliser?</p> <p>A. Fluidized bed dryers B. Spray Dryer C. Vaccum Dryer D. Fluidized Bed Dryer</p>	<b>10M</b>	

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<p>7. In drying process, the final product is in the form of</p> <p>A. Slurry B. Solid C. Solution D. Concentrated liquid</p> <p>8. Hot spots are formed during the beginning of which phase?</p> <p>A. Constant rate period B. First falling period C. Initial adjustment period D. Second falling period</p> <p>9. Which condition is highly critical for drying operation?</p> <p>A. Moisture B. Pressure C. Temperature D. Volume</p> <p>10. Size reduction is also called?</p> <p>A. Segregation B. Comminution C. Compression D. None</p>			
<p>2</p> <p>A.</p> <p>A.</p>	<p><b>LONG ANSWER QUESTIONS (ATTEMPT ANY ONE)</b></p> <p>Classify dryers. Elaborate in detail drying rate curve.</p> <p style="text-align: center;">OR</p> <p>Differentiate laminar and turbulent flow. Explain in detail Bernoulli's theorem used in study of fluids</p>	<p style="text-align: center;"><b>10M</b></p>	
<p>3</p> <p>A.</p> <p>B.</p> <p>C.</p>	<p><b>SHORT ANSWER QUESTIONS (ATTEMPT ANY TWO)</b></p> <p>Explain in detail any 5 factors affecting size reduction process</p> <p>Describe Venturimeter Construction .</p> <p>Explain the construction and working of fluidized bed dryer</p>	<p style="text-align: center;"><b>10M</b></p>	

**Note** Draw diagram wherever necessary.

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